

Remarks/Arguments

Examiner A. Moe is thanked for the continued thorough Search and Examination of the Subject Application for Patent.

Claim 38 has been amended to correct typographical errors by adding "a" at the beginning of the fifth element of the claim so that "circuit" reads "a circuit" and by changing "and" to "an" in the second line of the fifth element of the claim so that "and interpolation signal" reads "an interpolation signal".

The last paragraph of Claim 1 and the last paragraph of Claim 38 have been amended to include the phrase "said programmable gain is used to provide on-the-fly color interpolation". The basis for this amendment to Claims 1 and 38 can be found in the Specification on page 3, lines 28-31. These amendments to Claims 1 and 38 are being made at this time to place Claims 1 and 38 in better condition for appeal. It is believed that no new issues are introduced with these amendments.

Claims 29, 31, and 46 have been cancelled.

Reconsideration of the Rejection of Claims 1, 3, 38, 43, 45 and 47 under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (U.S. 4,768,085) in view of Wilder et al. (U.S. 5,262,871) and Kozlowski et al. (U.S. 6,532,040 B1) is requested. Claims 1 and 3 describe a color imaging system and Claims 38, 43, 45, and 47 describe a

color imager which contain a plurality of color amplifiers having programmable gain. Key limitations of Claims 1, 3, 38, 43, 45, and 47; as amended; is that the programmable gain amplifiers are used to provide on-the-fly color interpolation. It is believed that Claims 1, 3, 38, 43, 45, and 47; as amended; are patentably distinct from Hashimoto in view of Wilder et al. and Kozłowski et al. for the following reasons.

Hashimoto describes an image sensing apparatus for performing simultaneous reading of a plurality of horizontal lines of image information. A signal processing unit is then used for forming signals corresponding to one frame by utilizing vertical correlation of image information read out of adjacent horizontal lines, see the Abstract and column 1, line 65 to column 2, line 3. Hashimoto does not describe using programmable gain amplifiers to provide on-the-fly color interpolation. The Examiner referred to Hashimoto at column 3, lines 60+ and column 6, lines 14+ as a readout circuit adapted to perform color interpolation. Hashimoto at column 3, lines 60+ describes sequentially and simultaneously reading adjacent horizontal lines and subjecting the signals read to signal processing to obtain vertical correlation. It is believed that this is different from using programmable gain amplifiers to achieve on-the-fly color interpolation. Hashimoto at column 6, lines 14+, with reference to Fig. 8, describes adjusting color levels of specific color signals by inserting attenuators between a process circuit 6 and amplifiers 3a and 3b and white balance amplifiers 4a and 4b to make the signal levels of color signals read twice correspond to color signals read once. Hashimoto describes using attenuators because some signal levels 6 dB higher than other signals; see column 6, line 18; and does not describe using variable or programmable

attenuators. It is believed that this is different from using programmable gain amplifiers to achieve on-the-fly color interpolation as is described in Claims 1, 3, 38, 43, 45 and 47.

Wilder et al. describe a multiple resolution image sensor which includes a device for randomly addressing individual pixels and a device for selectively varying the number of pixels read out in any one reading cycle. However Wilder et al. do not describe using programmable gain amplifiers to achieve on-the-fly color interpolation as is described in Claims 1, 3, 38, 43, 45 and 47. It is believed that Wilder et al. do not make using programmable gain amplifiers to achieve on-the-fly color interpolation; as is described in Claims 1, 3, 38, 43, 45 and 47; an obvious extension of Hashimoto.

Kozlowski et al. describe feeding a pixel output into a column buffer; Fig. 2 and column 7 lines 1-15. However Kozlowski et al. do not describe using programmable gain amplifiers to achieve on-the-fly color interpolation as is described in Claims 1, 3, 38, 43, 45 and 47. It is believed that Kozlowski et al. do not make using programmable gain amplifiers to achieve on-the-fly color interpolation; as is described in Claims 1, 3, 38, 43, 45 and 47; and obvious extension of Hashimoto.

It is believed that using programmable gain amplifiers to achieve on-the-fly color interpolation make Claims 1, 3, 38, 43, 45 and 47 different from and not obvious from Hashimoto in view of Wilder et al. and Kozlowski et al. Reconsideration of the Rejection of Claims 1, 3, 38, 43, 45 and 47; as amended; under 35 U.S.C. 103(a) as being

unpatentable over Hashimoto in view of Wilder et al. and Kozlowski et al.; and allowance of Claims 1, 3, 38, 43, 45, and 47; are requested.

Reconsideration of the Rejection of Claims 44 and 48 under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (U.S. 4,768,085) in view of Wilder et al. (U.S. 5,262,871) and Kozlowski et al. (U.S. 6,532,040 B1); as applied to Claims 1, 3, 38, 43, 45, and 47; and further in view of Lee et al. (U.S. 6,466,265 B1) is requested. Claim 44 describes a color imaging system and Claim 48 describes a color imager both of which contain a plurality of color amplifiers having programmable gain. Key limitations of Claims 44 and 48 is that the programmable gain amplifiers are used to provide on-the-fly color interpolation. Claim 44 adds the limitation that the predefined pattern of color filter components comprises a Bayer pattern. Claim 48 adds the limitation that said first, second, third, and fourth light sensors are arranged in a Bayer pattern. It is believed that using programmable gain amplifiers to achieve on-the-fly color interpolation; as described in Claims 44 and 48; make Claims 44 and 48 different from and not obvious from Hashimoto in view of Wilder et al. and Kozlowski et al. for the reasons recited above in the request for reconsideration of the Rejection of Claims 1, 3, 38, 43, 45, and 47.

As indicated by the Examiner Lee et al. describe at column 3. lines 20+ the use of a Bayer pattern. However, it is believed that Lee et al. do make not using programmable gain amplifiers to achieve on-the-fly color interpolation, as is described in

Claims 44 and 48, an obvious extension of Hashimoto in view of Wilder et al. and Kozlowski et al.

It is believed that using programmable gain amplifiers to achieve on-the-fly color interpolation, as is described in Claims 44 and 48, makes Claims 44 and 48 different from and not obvious from Hashimoto in view of Wilder et al. and Kozlowski et al. and further in view of Lee et al. Reconsideration of the Rejection of Claims 44 and 48 under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Wilder et al. and Kozlowski et al., and further in view of Lee et al., and allowance of Claims 44 and 48, are requested.

Claims 29 and 31 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Maenaka (U.S. 5,555,023) in view of Wilder et al. (U.S. 5,262,871) and Kozlowski et al. (U.S. 6,532,040 B1). Claims 29 and 31 have been cancelled.

Claim 46 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Maenaka (U.S. 5,555,023) in view of Wilder et al. (U.S. 5,262,871) and Kozlowski et al. (U.S. 6,532,040 B1) and further in view of Lee et al. (U.S. 6,466,265 B1) Claim 46 has been cancelled.

It is requested that should Examiner A. Moe not find that the Claims are now Allowable that the Examiner call the undersigned Attorney at (845)-452-5863 to overcome any problems preventing allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'SBA', with a long horizontal line extending to the right.

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